Putting a price on planning? Reimagining planning as "market maker"

Abstract

Planning has been widely vilified for the role it plays in disrupting the development process, hindering economic growth and creating the conditions for undersupply in housing markets characterised by unaffordability. In this paper we hope to show that the analyses that support this view of planning are incomplete because of the theoretical limitations of the neoclassical tradition from which they emerge. By way of alternative we posit an account of planning that draws upon game theory and behavioural economics to explore those aspects of the activity that serve to animate the development process. This interpretation of planning as a 'market maker' is explored through empirical case study research from three Continental European contexts where planning is charged with playing an economically active role to control liquidity.

Keywords: urban/environmental planning, game theory, behavioural economics, development process.

Introduction

The case for thinking of planning as a disruptive force, the principal effect of which is the creation of market distortions, has been made extensively (Nathan and Overman, 2011; Cheshire et al, 2014; Cheshire, 2014; Hilber and Vermeulen, 2016). In recent times this debate has been re-animated by an exchange between Overman (2014a, 2014b) and Haughton, Deas and Hincks (2014a, 2014b). The aggregate of these contributions (together with others in cognate literature) is that the costs of planning are real but greatly more amenable to measurement through a neoclassical understanding of the effects of regulation on real estate prices than the, equally acknowledged, benefits of planning. Indeed, if we were to respond in kind to the neoclassical impulse to measure the costs of planning with an account of how we collectively benefit from the activity we would need to disentangle a range of environmental and social variables. This in turn would entail engaging with the great academic controversies that ecosystem services accounting and social cost-benefit analyses serve primarily to define rather than conclusively end – questions such as, does the natural environment have a computable economic value and should urban policy investment decisions be made on the basis of forecast returns or continuing the struggle against inter-generational poverty?

Modesty dictates that we must be honest: it may be impossible to produce an econometric analysis that clearly establishes to a satisfactory degree of certainty precisely what we collectively get out of planning. The underlying problem is that many of the positive aspects that most accept are an outcome of the process of regulatory policy for land and property markets are matters for ethical debate and are not well accommodated by the framework of neoclassical economics. Nevertheless, because of this analytical mismatch the inaccurate

impression that planning is an activity that principally bears only costs has become close to an accepted wisdom amongst the political élite in nations such as Britain, and constructed into formulations to "get the planners off our backs" or overbearing, strained associations between planning and communism (Cameron, quoted in Kirkup, 2012; *Birmingham Post*, 2010). Rarely have the political class been held to account for the selectivity with which they have used academic evidence. For example, Overman (2014a) explicitly acknowledges that planning supports social and environmental benefits and points out that he has debated whether the measured costs of the activity outweigh these benefits even with his closest collaborators. Moreover the same authors who are frequently cited favourably by politicians as justifying less planning have actually advocated a more powerful role for state agency in controlling land supply (Cheshire, Nathan and Overman, 2014). Yet, the complexity of the underlying problems that these observations imply has seemingly had little bearing on the political discourses that have been crafted in response to the academic literature.

To provide a corrective to this politicised interpretation of academic work, in this paper we turn to a different branch of economics: game theory. More specifically we do not seek to quantify the outcomes of planning decisions as these are clearly questions that relate as much, if not more, to ethics, culture and social cohesion as they do to the mechanics of economic analysis. Instead we look to the function performed by planning as an intermediary that provides *market making* services. This market making role is common in many markets even those that do not possess some of the peculiar complexities that characterise land and real estate. In the context of urban and environmental management the terms of what making markets' might confer would be wider than in other areas, such

as securities exchanges, as real estate markets possess some complicating factors: land assembly prior to development may be inhibited by sites in multiple ownership, transformation of land into new buildings inevitably takes a sustained period of time and questions of public interest and local democracy are relevant to the final outcome.

In this paper we seek to explore how other nations have chosen to deal with these issues by empowering - not diminishing - their planning systems and re-imagining planning as an activity that is an active market participant, often a first mover or catalyst, in the development process. In order to investigate this we draw upon the analytical rubric provided by game theory to conceptualise the interactions that occur between planning and other market actors in the development process.

Market stability, liquidity and the role of the 'market maker'

Fundamentally a market maker is a catalysing intermediary that exists to support market integrity. As an economic function it is most necessary in markets that are geographically diffuse, disembodied, characterised by large numbers of transactions or in which there are systemic obstacles to transactions taking place easily. Although initially coined to describe a range of functions provided by intermediaries on financial exchanges the expression is now used much more widely to describe any set of circumstances that requires a third party to animate a market. As a result the literature on online markets (Kim and Ahn, 2006); business-to-business transactions (Klein and Quelch, 1997), new product development (Teichart, von Wartburg and Braterman, 2006) and the development of retail (Godley and Casson, 2015; Hamilton, Petrovic and Senauer, 2011) all make use of the expression "market maker" to describe the, often complicated, processes by which markets become established and remain functional over time.

Critically, the suite of activities that comprise market making can be wide ranging. For example, in the financial services industry where the term was born, the role of a market maker is usually defined as twofold: firstly, to take positions in assets (equities, commodities, currencies, derivatives) that correspondingly allows the market maker to control liquidity through acting as an intermediary between buyers and sellers; secondly, to provide a stabilising influence that guarantees 'fair dealing' through the establishment of transparent pricing. Research has shown the value of these two related activities to be potentially significant (Garbade and Silber, 1979; Grossman and Miller, 1988; Venkataraman and Waisburd, 2007). Indeed, it has been shown that beyond the activity of providing liquidity and determining pricing the role of the market maker has additional behavioural effects on market 'quality'. That is, the presence of a market maker itself may support the confidence necessary to facilitate trade and even potentially erode perceived barriers to entry (Venkataraman and Waisburd, 2007).

As the term has garnered greater currency and been applied to a wider range of market conditions the practical roles and functions that market makers might fulfil have grown. To some extent differences in practice are a reflection of context and depend to a large extent upon the specific nature of the markets in question, customs and regulatory environment, prompting some to begin new work on the behavioural typologies of market makers and the corresponding character of the markets they make (for example, Zhu et al., 2009). As a result the strength of market makers' position and their stabilising influence may vary giving rise to different market characteristics in each case. More research on the behavioural economics of market making activities is needed to explore these questions more fully across the board. Nevertheless this association between the character of the system under

which markets are made and the outcomes that follow is worth emphasising as it potentially has explanatory value for other areas where markets might require some form of 'making'.

The central contention of this paper is that there may be good grounds for thinking of land and property as one such market. To return to the earlier definition of the basic functions a market maker provides (and under what circumstances) - the control of liquidity and the guarantor of fair dealing – there are clear parallels between market makers in other spheres and the role planning playsin many contexts, as custodian of liquidity (in the form of the land supply) and as a regulatory body that evenly applies the rule book of planning law. Moreover, as real estate is a product created at the confluence of state-civil-market relations the systemic obstacles this presents to a straightforward matching of buyers and sellers further points to the necessity for a market making intermediary. As the agency that controls market liquidity, effectively animates the development process and, as a result, has a material effect on market stability and pricing there are good grounds to think of planning as a form of market maker for land and real estate: a quite different interpretation of the activity to that which pervades the understanding of planning as a solely regulatory brake on development amongst, for example, UK policy makers.

Moreover, similar to the contextual differences that might give character to, for example, various countries' securities exchanges so too the terms under which planning is charged with catalysing development might provide qualitative clues to variations in how nations administer development and, ultimately, the character of the built environments that follow.

The research: methods and concepts

Exploring this conjecture means confronting questions that are perennial in planning. For example, adherents to the New Institutional Economics have long sought to explore what planning might be said to achieve through a transaction cost framework (for example, Lai and Lorne, 2015). For others the set of activities collected together under the banner 'market making' might be said to have been fulsomely described in the empirical literature on the correction of market failures, for example, through the US programme of Urban Renewal (Rapkin, 1980).

Building on this literature developments in game theory, and the emergence of the related behavioural economics, have presented clear challenges to the fundamental psychological assumptions of rational, self-interested decision making that underpin the neoclassical paradigm (Samsom, 2015). As such this developing field seeks to understand the reasoning, heuristics, emotion and, sometimes, irrationality that explains the range of decisions we make in a wide array of economic settings. Academic work in this area has been successfully translated into popular accounts that have gone on to become bestsellers (Levitt and Dubner, 2007, 2010; Harford, 2007, 2014). Often the underlying economic questions asked, particularly in an empirical sense, speak directly to and build upon principles from game theory such as attitudes to risk, loss aversion and first mover problems/advantages.

From this point of view there are points of tangency between this branch of economics and aspects of the New Institutional Economics (bounded rationality, a focus on formal and informal codes of practice as 'rules of the game'). However, the microeconomics of psychology that permeate game theory and behavioural economics provide a clearly

160 defined focus on human practices irrespective of their origins, or otherwise, within an
161 institutional framework. That is, NIE and game theory share an interest in the role played by
162 institutions in animating markets (e.g. Bromley, 2014; Bromley and Hiedanpää, 2016) but for
163 game theorists (and behavioural economists) much greater focus is placed on the micro-
164 agential role played by individual actors in shaping and determining the character of the
165 institutions, both formal and informal, that people them. Approaching planning in this way
166 entails thinking of it less as a noun and more as a verb: not an institution or framework but a
167 peopled activity that involves multiple participants that may each deploy separate strategies
168 in relation to one another. It is also not an activity that pertains only to those areas where
169 there is some evidence of market failure. The interactions that underpin market
170 transactions in real estate markets are equally relevant in prosperous locations
171 characterised by high demand. Every instance of market transaction, irrespective of
172 context, is a new round of the planning game (Lord, 2012).

173 The implied research agenda is enormous and with respect to planning is in its nascent stage
174 (Adams and Tiesdell, 2010; Ferrari et al., 2011; Samsura et al., 2015). In this contribution we
175 aim to focus on just one aspect of what this agenda might entail – varying approaches to the
176 market making activity of managing liquidity in land supply. To do this we take a cue from
177 others (for example, Annand and Lea, 2011; Gordon 2011; Piore, 2006) in applying concepts
178 from game theory to inform a qualitative empirical investigation of systemic behavioural
179 differences in how the activity of planning is animated in different contexts.

180 In choosing case studies we were interested to explore a range of governmental settings
181 where planning is explicitly charged with playing an economically-active role. As the
182 research was funded under the Royal Town Planning Institute's SPIREe (Small Project Impact

183 Research) programme this objective was balanced against a desire to explore these
184 questions within the context of Britain's nearest neighbours. The desirability of this near
185 European focus was reinforced by academic calls, such as Adams and Watkins' (2014)
186 invocation, for research to parse European experiences of new forms of planning practice
187 that seek to actively animate development.

188 Following a thorough literature review of planning reform in continental Europe (for
189 instance, Colomb, 2007; Hong and Needham, 2007; NAO, 2007; PRP, URBED and Design for
190 Homes, 2008; Oxley et al, 2009; Helbrecht and Dirksmeier, 2012; Hall, 2014; Falk, 2014)
191 three cases were selected as representing city-based case studies of how planning might
192 play an economically active role in managing liquidity to catalyse development: the coalition
193 of actors that have cooperated on multiple urban projects in Lille and its neighbouring
194 towns and cities in the Nord-pas-de-Calais-Picardie region of France; the use of a form of
195 public land development that prioritises strategic bargaining with private actors in
196 Hamburg's HafenCity development; and the introduction of urban land readjustment
197 policies in the Netherlands following the historic use of the Dutch public land development
198 model.

199 The project ran from March-November 2015. As we were seeking to gain a qualitative
200 impression of differences in real world approaches to controlling land supply the data
201 produced to inform the research was generated by semi-structured interviews carried out
202 with key individuals in each case study area. In addition relevant documents for each case
203 study were reviewed.

204 The objective in data collection was to explore the range of market making activities that
205 are entailed by planning's control of liquidity as a conduit to catalysing development.

Because the markets through which new real estate is produced have specific peculiarities the act of controlling liquidity in the development process is overlaid with questions of sequencing, consensus building and coalition formation. As a result, in conceptual terms the range of activities that this implies are best treated through the language of game theory which explicitly take the dynamics of counterparty interactions as its principal focus (see, Samsura, van der Krabben and van Deeman, 2010; Lord, 2012). To facilitate exchange between this body of economic thought and the specific question of how planning as an economic agent acts to manage liquidity in the development process we can point to three key concepts from game theory that have clear explanatory resonance with respect to the act of making real estate markets: 'first mover' problems; coalition games and attitude to risk.

Developing the game theoretic understanding of planning practice

i. First mover problems

Because urban development is so fundamentally dependent upon the *sequential* coordination of multiple stakeholders, controlling liquidity in the land supply comprises aspects of a collective action problem that have a peculiarly temporal aspect (Cadman and Austin Crowe, 1978; Goodchild and Munton, 1985; Gurran and Phibbs, 2013; Meen et al., 2016). Even in circumstances where every stakeholder could reasonably expect to stand to gain from (re)development, delay is often caused by the question of which party should bear the risk of acting first. This issue is particularly acute where the actions of the first mover will confer material benefits on second (and subsequent) movers: such as where remediation work by one landowner benefits a neighbour. The corresponding systemic delay that is the hallmark of some planning systems is, therefore, perhaps best understood

as a collective action stand-off with a sequential dynamic. This 'failure to launch', in which the cooperation of multiple actors is necessary in order to achieve a particular end, is a long-acknowledged phenomenon (Olson, 1965). However, how this question might be recast as a first-mover problem complete with a deeper appreciation of the behavioural characteristics of the development process has not so far been clearly adumbrated.

At base the problem is one of mutual trust versus the fear of free riding. For the strategic alignment of interests and the development of mutual trust to emerge the latent uncertainty that each party holds as to each others' position must be reduced to a point where one participant is sufficiently emboldened to 'nudge' the market into life. For some post-positivist planning theorists this might be best achieved through disclosure and open dialogue - although others have questioned the degree to which private developers would be willing to share commercially sensitive information, or how we would ever know if the revealed position was genuine or strategic (Bengs, 2005; Tewdwr-Jones and Allmendinger, 1998).

So, how might the first mover obstacle to land release be overcome? One possible approach is to acknowledge that land and real estate markets are peculiar and demand overt public-private cooperation (Mazzucato, 2013); namely, a state agency that in its regulatory capacity also performs open market operations to instigate a chain of action in the other actors in the development process. This may take many forms. For example, the first move may be the creation of a state or quasi-state institution that acts as a coordinator of the development process, thus providing confidence to investors and raising levels of trust between market actors – the equivalent of the 'market quality' said to arise in other areas as a function of the presence of a market maker. Alternatively, the state may institute

a regulatory framework (or a moderated local version such as through an enterprise zone) that uses incentives and penalties to engineer a desired response from the development industry. Finally, it may be that where the problem of coordination seems intractable a third party – possibly the state acting directly as investor – may demonstrate its commitment to redevelopment by itself acting as first mover to facilitate wider market participation subsequently.

Empirical examples of all three forms of open market activities by planners through planning systems designed with this end in mind can be found in each of the cases. The example provided by the polycentric city region surrounding Lille, led by its city regional governance body, the Métropole Européenne de Lille (MEL), serves well to illustrate the first of the three alternative first moves outlined above. Whilst the MEL has taken a multifaceted approach to the city-region's regeneration (Colomb, 2007; Hall, 2014) over a sustained period of time the vast majority of its activities have necessitated coordination across a fragmented geography comprising 85 communes. Perhaps the best specific example of this has been the development of the *Euralille* office and retail development that connects Lille's principal rail station with the city centre.

The rationale behind the *Euralille* development was that the construction of a high-speed rail station through which trains would pass *en route* from London and Paris to Brussels would provide Lille with an opportunity to attract new investment and employers to the city. However, at its outset the project was slow to commence. A reluctance on the part of the private development industry, which had largely abandoned Lille in favour of more readily profitable locations elsewhere in France, to invest in *Euralille* stalled the commencement of the redevelopment project.

In response a *Societé d'Economie Mixte* (SEM) was established, a temporary public sector-led, majority public sector-owned, public-private limited company which was used to raise debt finance at lower interest rates than would be available to private investors. This in turn facilitated a first move on behalf of the SEM in the shape of land assembly and remediation. Colomb (2007: 37) describes this strategy as one that 'mobilised energy from various stakeholders (public, private) and changed the external image of the city'. Stated alternatively it was a first move that was essential to 'unlock' the *Euralille* site for development. Private investment followed in an approach that has been replicated in other French cities using similar models, such as the *Établissement Public Foncier* (Dupont, 2011).

A more aggressive form of planning acting as first mover can be observed in relation to the public land development model used in the Netherlands since the 1940s under which municipalities acquired land at pre-planning permission cost before fully servicing it with roads and other public infrastructure, dividing it into parcels and selling these on to private developers with specified development rights. This 'public top-down comprehensive model' of development (Van der Krabben and Jacobs, 2013) facilitated the uplift in price that results from the award of planning permission to be taken as profit by the municipalities as compensation for acting as first mover. An additional and enduring advantage of the public land development model was that, by making the first move in the development process, the municipality was in a strong position to shape the nature of development that followed. Evidence from our research would suggest that this usually took the un-priced form of directing the behaviour of private developers towards the achievement of public policy goals, such as the linking of new development to existing infrastructure and services and, up until a 2008 change in law, the provision of social housing. One interviewee pointed to the

leverage that acting as first mover accorded to the state in shaping the behaviour of the development industry that moved next:

> 'One reason, under the old planning law, that the public sector wanted to interfere in the land market, was that they wanted to guarantee sufficient land for social housing, and by owning the land they could choose who to sell it to so they could guarantee social housing,' (Dutch urban planning university department interview, 2015)

The ability to encourage social outcomes as a result of bearing the risk of being the first mover is echoed by other evidence that supports the view that public land development model allowed municipalities to play an active role in rebalancing real estate markets through cross-subsidising development in locations less favourable to private investment. By using proceeds realised in locations more desirable to the development industry interviewees pointed to the potential for municipalities to use these proceeds to again act as first mover in neighbourhoods less immediately attractive to developers (Dutch urban planning university department interview, 2015; Dutch Land Registry interview, 2015). These features have prompted interest in the potential of this approach where the state takes on first mover responsibilities to animate the development process in the UK (Cheshire et al, 2014).

The public land development approach to controlling liquidity was clearly characterised by a highly interventionist approach for the state. Large scale development could be hastened by the fact that planning was backed by the state to bear all the risk of being first mover. Correspondingly this had the advantage of meaning that liquidity could be controlled and the subsequent behaviour of the development industry could be very significantly shaped.

However, the disadvantages of this approach are that releasing large amounts of land very rapidly may have compounded the price shock to the Dutch real estate market following the financial crisis of 2008 onwards. The best example of this is the national programme of housing growth, the VINEX (*Vierdpublic e Nota Ruimtelijke Ordening Extra*), a huge programme of land release operating under the terms of the public land development model. Interviewees suggested that the negative price effects experienced by this programme were a result of the macro shock to the Dutch economy in 2008 exacerbated by a very rapid release of liquidity.

A highly active and risk taking state may also have prompted an unexpected/unwanted behavioural change in the Dutch development industry. Some interviewees pointed out that the longevity of the Public Land Development model had resulted in Dutch developers becoming accustomed to a low-risk business model where they could rely on planning to act as first mover and bear, what some might think should be, the risks that are the counterpart to the rewards associated with entrepreneurship.

Appetite for the public land development model diminished in the period following the 2008 global financial crisis as many Dutch municipalities were left in financial difficulties due in large measure to outstanding debts with the *Bank Nederlandse Gemeenten*, the national bank specialising in lending to public sector organisations to finance public land development. In the immediate aftermath of these events whilst the public land development model remains available for use in the Netherlands its association with public sector indebtedness has led to a search for new ways of disentangling the knotted problem of controlling land release through overcoming first mover problems in the development process.

In the Netherlands the principal response to this question has been an exploration of urban land readjustment – an approach that has been previously employed in a number of international contexts, including Germany, Spain, Australia and Japan, and has been endorsed by the World Bank since the 1970s (Doebele, 2007), while the analogous 'urban partnership zone' has been proposed for use in the UK context (Adams et al, 2001).

The essential objective of urban land readjustment is to manage liquidity where a coherent site is held in multiple ownership. Often such sites are sub-divided in such a way as to make wholesale redevelopment implausible. Under urban land readjustment a temporary pooling of land holdings is followed by reconfiguration and servicing of the site into a layout more conducive to development/redevelopment through the planning system before the now more valuable plots are released to market. It is, therefore, an approach well-suited for use in cases where "the boundaries of the rights to land ownership or land use may impede the desired use of the area as a whole" (Needham, 2007: 115). At root, urban land readjustment is fundamentally concerned with governing liquidity by overcoming the first mover problem through the alignment of multiple strategic interests towards a common goal, avoiding the necessity of there being a single investor willing to bear all the risk of negotiating the acquisition of multiple plots of land on a case-by-case basis, or of the often disruptive, drawn-out and complex process of compulsory purchase in the case of public sector development agencies.

So conceived urban land readjustment offers a solution to the governance of liquidity by pooling the risks and rewards of development across landowners, developers and planning. As such it speaks to either or both of the two forms of first move described at the beginning of this section - the establishment of a common institution to raise levels of mutual trust

and the use of a regulatory framework to incentivise cooperative action. In the case of the former, urban land readjustment may proceed by the pooling of land and property rights into a jointly or publically owned development agency that re-parcels and redevelops the site according to the prior agreement of property owners. In the case of the latter, urban land readjustment may proceed from the simple legal guarantee of land and property rights throughout the course of the redevelopment, ensuring that the readjustment process can continue to completion. In both models planning plays an important market marking role, 'collecting all the signals from the different owners and [saying] there's scope for redevelopment by urban land readjustment there' (Dutch Land Registry interview, 2015). In various circumstances either approach may be an essential precursor to the effective release of new sites for development; although it is the latter approach that has been selected as the basis of an on-going pilot project in the Netherlands, where there is a preference, post-VINEX, for planning to be more behaviourally risk-averse.

ii. Coalition formation

As noted above planning's market making role as frequently entails the establishment of multi-agent cooperation. These coalitions of interest often first emerge as a solution to the first mover problem. However, because the development process can be protracted the stability of these coalitions of actors over a sustained period of time is necessary to guarantee that initial land release is ultimately translated into new development. Where agents are engaged in a constant shifting of allegiances, collective solutions are highly improbable. All these observations point to the pivotal role planning can play in providing a strong framework for the establishment and stability of coalitions necessary to guarantee land release and subsequent development.

One such way in which planning can seek to engineer coalition formation and stability is through behavioural prompts. All other things being equal, cooperative game theory would suggest that coalition stability is a function of the relative payoff to coalition members: the accrual to each member must be sufficient to ensure their commitment to the wider cause (Chakravarty, Mitra and Sarkarr, 2015; see essays in Roth, 1988). For the market maker there is, therefore, a need to consider the use of incentives and penalties (or threats of penalties) to encourage collaborative/cooperative behaviour across the coalition as a whole. The range of questions that are logically entailed by these predictions of theory include who is likely to partner with whom; how stable are the coalitions that might emerge; how might 'fair shares' be agreed upon between coalition members; and what effect will coalition dynamics have on the specific character of the development that follows?

Our research in Continental Europe points to a wide variety of experiences with respect to these questions of coalition formation and stability. Coalitions of different forms operating over different timescales and devised to meet different ends within the development process were found in each of the case studies.

In Hamburg the establishment of a state owned development company, 'HafenCity Hamburg GmbH' (at the time known as *Gesellschaft für Hafen- und Standortendwicklung*, GHS), to oversee the redevelopment of the city's old docklands has proved essential to coordinating the activities of a coalition of interests. The breadth of this coalition has been systematically inscribed into the redevelopment of the area as a whole due to the way in which the development corporation has controlled liquidity through an allocation mechanism that fosters coalition formation and stability. Under a policy of 'spatial segmentation' the HafenCity area was sub-divided into a large number of relatively small

plots with the corresponding stipulation that any developer was entitled to purchase just one plot. This has given rise to a tightly controlled 'drip release' of developable sites and a very large coalition of developers, each relatively powerless as an individual relative to the wider set. The internal dynamic of the coalition is also important. By associating control of liquidity with a group dynamic there are important behavioural cues given to the engaged developers who are simultaneously collaborating with the development corporation on the wider vision for the area as a whole and, through a process of competitive tendering in which design criteria are strongly weighted, competing with each other for the right to develop a single site (see for fuller details, Lord et al., 2015). This approach to redevelopment echoes aspects of other market making activities where assets are bundled and/or repackaged (Mantovani, 2013) and contrasts sharply with the approach to controlling liquidity in real estate markets prevalent in other contexts, such as the UK, where large sites are typically released whole and usually developed solely by one, consequently quite powerful, volume developer.

A coalition of a different type can be found in the *Métropole Europénne de Lille* (MEL), a good example of what Lefèvre (2008) terms the inter-municipal joint authorities model, in which an indirectly elected board administers a cooperative grouping of local authorities that have collectively transferred some important responsibilities over policy and spending to a city-regional scale umbrella authority. This joint body has existed since 1967 before undergoing additions and name changes over the following decades until the incorporation of the coalition as a *Communautés Urbaine* in 1996 and since January 1st 2015 as the *Métropole Europénne de Lille* (MEL).

By the turn of the 2000s the *Communauté Urbaine* had engineered a consensus across the larger communes that comprise the Lille city-region founded on two principles. Firstly, the economic success of the city region as a whole was established as depending on policy markers' ability to establish Lille as an attractive location for internationally footloose service and knowledge-based industries> Secondly, for such a strategy to work, the social and economic prospects of the less affluent communes, most notably Roubaix and Tourcoing, had to be addressed (Hall, 2014). However, crucially, in order to access funds controlled by the city regional authority, projects had to be collectively agreed by the leaders of the four largest communes, Lille, Roubaix, Tourcoing and Villeneuve d'Ascq.

The sort of cooperation engineered in the MEL can best be understood as a long-term governance coalition, the stability of which has been dependent upon the relative payoffs to each member being sufficient to maintain their commitment to the wider group. Cooperative game theory offers an avenue to understanding the integrity of a 'grand coalition' such as that described across Greater Lille, using the concept of 'superadditivity': the notion that the stability of the coalition is dependent upon each coalition member perceiving that their interests are better served inside the coalition than by acting alone.

In game theory this concept is codified through the identification of what constitutes 'fair shares' within such a coalition. The 'Shapley value', (Shapley, 1953; see also Roth, 1988), offers the most widely accepted way of calculating what division of resources is sufficient to maintain coalition stability. The Shapley value is defined as the marginal contribution of each agent to the value obtained by the grand coalition of agents. With regard to its practical applicability, the Shapley value has been used to model voting patterns in committees, where voter coalitions are formed (Straffin, 1977), a useful point of congruence

458 with planning of the form practiced in Greater Lille, in which decision-making is systemically
459 designed to be cooperative.

460 The outcomes of such an approach to organising urban (re)development on the basis of
461 mutually agreed investment was spelt out by one interviewee:

462 'There are still some fields in which solidarity can play a part, typically for
463 renovation for derelict housing and things like that. There's a need for some kind
464 of public support … the idea that there should be some solidarity between the
465 slightly richer city of Lille and Roubaix and Tourcoing has always been accepted'
466 (Lille urban planning department interview, 2015).

467 This echoes some of the findings set out in the previous section regarding the use of the
468 public land development model in the Netherlands to encourage a spatial
469 rebalancing/redistribution of development activity towards less affluent areas. Further
470 research could potentially explore the degree to which coalition stability in urban
471 development is, as the Shapley Value would suggest, dependent upon a perceived
472 association between a member's contribution and reward or whether other behavioural
473 characteristics – such as altruism or threats and penalties – explain coalition stability.

474 *iii. Distribution of risk*

475 The previous two sections have illustrated the inextricable connections between the initial
476 release of land and the subsequent orchestration of development through multi-agent
477 coalitions. The behavioural character of the coalitions that follow are, however, likely to be
478 shaped by the distribution of risk and rewards. As Ratcliffe et al (2009: 421) note, "risk is
479 the very business of property development, and uncertainty the prevailing climate within

480 which development takes place". Risk is, therefore, a key determinant of the behavioural
481 traits that serve to define the development process in any given setting.

482 In game theory individual attitudes to risk are codified through the derivation of a utility
483 function that delineates a spectrum from the extremes of risk aversion to risk loving.
484 However, it is important to note that the attitude of the individual to risk is hugely
485 dependent upon the specific nature of the economic decision they are confronted with,
486 particularly the asset under consideration and the period over which the individual has to
487 think about how strongly they value that asset. An overall measure of the degree of risk
488 aversion one takes into general economic decision making is very likely to be quite different
489 to a specific case where one must contemplate, say, the question of a decision that carries a
490 legal precedent that might have decades-long implications.

491 This issue of risk aversion is so significant in relation to planning and real estate markets
492 because investments in the built environment are characterised by behavioural traits that
493 are peculiar to this specific sector of the economy. For example, planning decisions that
494 involve a significant stimulus to land supply fundamentally entail landscape altering effects
495 that bear a decades-long (or longer) shadow. As a result the nature of the decision making
496 environment may make risk aversion and protracted consideration of development
497 proposals much more likely. In the language of behavioural economics this speaks to the
498 propensity for 'status-quo bias' (for example, Samuelson and Zeckhauser, 1988) – and
499 therefore a potential reluctance on the part of planning to release land for development.
500 More widely in neighbourhoods characterised by capital flight and property market
501 deterioration it may be the case that re-establishing a market requires the state to actively
502 counter risk aversion in the private development industry.

In behavioural terms this points to an analytical paradox: planning's market making role is one that entails/necessitates an appetite for risk, but the character of the underlying asset it controls in the development process, land and the natural environment, might be expected to encourage risk-averse decision making. From this perspective the distribution of risk across a development coalition is perhaps the fundamental determinant of the behavioural character of the ensuing development process.

Our research points to very different behavioural outcomes as a function of the distribution of risk. In a city region adversely affected by deindustrialisation, urban development projects on the scale of *Euralille* and others initiated in metropolitan Lille since the early 1990s could not have occurred had it not been for the kind of mutually-agreed, sustained public investment programme set in train by the coalition of interests outlined in the previous section. A major role played by the MEL has been to assume a significant proportion of the risk associated with urban redevelopment across the conurbation. *Euralille* demonstrates the benefits that can accrue from such risk-taking, as the development has been successful in the long-term both in its own terms and in helping to kick-start further regeneration in the wider city region. Conversely the collapse of real estate values in the Netherlands following the 2008 global financial crisis has revealed the dangers with models, such as the Dutch public land development approach, that systemically places much of the upfront risk on publically funded planning It is this experience that has prompted a reappraisal of Dutch municipalities' desire to share too great a proportion of the burden of upfront risk and has resulted in the exploration of different models, such as urban land readjustment, that share risk more evenly among all counterparties according to their initial landholdings, investment and potential payoff.

The previous public land development model was premised on markets being made by a stimulus to supply in the shape of a first move by an emboldened and risk-taking form of planning. This behaviour then prompted the establishment of development coalitions, the stability of which was aided by the fact that they were able to effectively under-share in the risks of development (as these were disproportionately assumed by planning) and potentially over-share in the rewards at the conclusion of the process. To use the language of game theory the marginal return to developers' membership of the coalition exceeded their marginal contribution and so the concept of the Shapley Value would suggest coalition stability and, correspondingly, market liquidity followed by relatively rapid development. Undertaking this approach at a very large scale (such as through the VINEX programme) resulted in rapid land release that may have exacerbated the worst effects of the financial crisis on Dutch housing markets post-2008. The subsequent search for methods that share risk more evenly between public and private sectors, such as urban land development, have been spawned by a desire for a less definitive first move by planning and a generally more chastened approach to making the market for urban development. By extension, for this approach to work will require a behavioural shift from a Dutch development industry that had become accustomed to the favourable terms of the public land development approach.

This remarkable shift in the behaviours that explain changes in how the Dutch development process is animated begins with the question of how market liquidity is handled but necessitates a more fulsome account of dependent issues pertaining to the relationship between other participants in the process.

These empirical observations on how such markets are made in the Netherlands contrasts sharply with the experiences of other contexts. For example, whilst HafenCity GmbH has

549 also borne the majority of the first mover development risk by acting as the coordinating
550 agency and installing the requisite infrastructure for the area in its entirety it has also strictly
551 controlled liquidity very strictly. By sub-dividing the area into a relatively large number of
552 smaller plots and allocating these plots competitively within a broader development
553 coalition the redevelopment area as a whole has generally proven quite resilient to the risk
554 of external shocks: commercial vacancy rates are low and rates of construction completions
555 are high (HafenCity development agency interview, 2015).

556 By contrast where the question of liquidity (and attendant issues) is less carefully
557 considered deadlock can prevail. Game theory would suggest that behavioural stasis is
558 most likely to characterise those situations where no party is sufficiently empowered to
559 make a first move. In the development process this outcome might be most expected in
560 circumstances where planning is confined to a wholly regulatory function and/or where a
561 single agency, such as a volume house builder, as is often the case in the UK, must bear all
562 the risk associated with assembling and building out a large site. Exploring the potential for
563 planning to act as a market maker that manages liquidity through a distributed model of risk
564 sharing might help avoid the lengthy lead times, delays and disruptions that seem to
565 routinely afflict even flagship developments in the UK – for example, the standoff between
566 developer and local/national state such as was reported at the new Garden City in
567 Ebbslfleet (Linney, 2015).

568

569 ## Conclusion

We began this paper by acknowledging that urban and environmental planning can create market distortions. In conceding this point we merely accept that making real estate markets is complex and turns on managing liquidity within the context of sustained multi-agency cooperation and competition. More widely, our aim in this paper was to show that planning can play a (varied) range of fundamentally important roles in this regard; roles that are barely acknowledged in the political campaign against it. The experiences of other countries – the UK's nearest Continental neighbours – where planning is effectively charged with controlling liquidity through market making practices.

Conceiving of planning as occupying this wider position of animating development means taking a similarly broader framework than the limiting uni-equilibria approach offered by neoclassical economics to understand its impacts. Market making is an activity that may be best thought of as context and transaction specific. The range of experiences from near Continental Europe outlined in this paper show that planning can catalyse development in multiple ways using a variety of instruments and with remarkably different ends. The behaviour of participants in each setting will be an outcome of the terms set by the legal system within which transactions take place and the individual strategies deployed by market participants themselves. In this sense the behavioural aspects of planning and the real estate markets bear important similarities to other market contexts. As Madhavan and Sofianos (1998) point out about such markets for financial instruments, "although specialists play an important role in price formation, we still know relatively little about their behaviour and its consequences". It is argued here that we know less still about the range of behaviours that underpin the markets that make cities, particularly when we own that markets for urban (re)development are highly contextually variegated. The actions of

planners seeking to stimulate development in a setting characterised by population loss and market decline will inevitably be quite different to those seeking to accommodate development in a sensitive and sustainable fashion in a growth area. Yet both demand a role for the state, usually through planning, to make these markets work.

From this perspective calls for deregulation from the development industry, the political right and neoclassical analysts are one, but not the only, option for systemic reform. The lessons from this paper allow us to conceive of various alternatives including variations on a more economically active planning profession that may adopt a variety of different approaches to manage liquidity, unlock development and shape it constructively. For academics the post-hoc analysis of this form of planning will mean mirroring developments in mainstream economics, specifically a move away from neoclassical analysis and a much fuller engagement with the psychology of economic decision making *vis a vis* planning. There is evidence that this work is beginning in cognate attempts to understand the psychology and emotions that shape planning decisions (for example, Baum, 2015). Framing planning questions in this way also opens up the possibility that academics might have a role in shaping the future of planning systems through further research aimed at developing a more fine-grained understanding of the behavioural economics of planning practice.

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